

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW HAMPSHIRE**

OCADO INNOVATION LTD. and
OCADO SOLUTIONS LTD.,

Plaintiffs,

v.

AUTOSTORE AS and
AUTOSTORE SYSTEM INC.,

Defendants.

Case No.: 1:21-cv-00041-JL

**DEFENDANTS' ANSWER, AFFIRMATIVE DEFENSES, AND COUNTERCLAIMS TO
PLAINTIFFS' SECOND AMENDED COMPLAINT**

DEMAND FOR JURY TRIAL

Defendants AutoStore AS and AutoStore System Inc. (together “AutoStore”), by and through their undersigned attorneys, hereby submit their answer, affirmative defenses, and counterclaims in response to the second amended complaint (Dkt. 35, the “SAC”) filed by Ocado Innovation Ltd. (“Ocado Innovation”) and Ocado Solutions Ltd. (“Ocado Solutions”) (together, “Ocado” or “Plaintiffs”) in this Court on April 23, 2021, as follows:

INTRODUCTION

1. AutoStore admits that Ocado offers a product called the “Hive” which is part of a product that Ocado calls the “Ocado Smart Platform” (“OSP”), which is a cubic automated storage and retrieval system (“AS/RS”). AutoStore admits that the OSP is a suite of solutions for operating an online grocery business, comprising an end-to-end software-based order picking and delivery system with a physical fulfillment asset solution. AutoStore denies the remaining allegations contained in paragraph 1 of the SAC.

2. AutoStore admits that Ocado's system includes a storage cube with robots that move along the top of the cube, retrieve containers that store inventory items up vertically from a storage column, and deliver them to picking stations for assembly of customers' orders. AutoStore admits that components of a cubic AS/RS system are depicted at a high level in the graphic in paragraph 2 of the SAC. AutoStore denies the remaining allegations contained in paragraph 2 of the SAC.

3. AutoStore admits that its system stands apart from other forms of automated order management and provides for high storage density, attendant cost savings, and extremely quick, safe, and accurate order fulfillment. AutoStore admits that its system includes robots moving in a controlled manner that optimizes their travel paths, which enables them to store and retrieve items rapidly. AutoStore admits that merchants that experience high throughput are increasingly turning to AutoStore's system as a solution, especially as online shopping increases dramatically. To the extent that the allegations contained in paragraph 3 of the SAC relate to other, unspecified "Cubic AS/RS" systems, AutoStore lacks knowledge or information sufficient to form a belief as to the truth of those remaining allegations contained in paragraph 3 of the SAC and therefore denies the allegations on that basis.

4. AutoStore admits that online grocery businesses may need to manage high customer order volume in terms of both the number of orders and the size of any particular order, which sometimes may require fulfillment and shipment of thousands of orders in a matter of hours, and reliable storage, handling, and delivery of frozen, refrigerated, and other perishable items. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 4 of the SAC and therefore denies the remaining allegations on that basis.

5. AutoStore admits that the picture in paragraph 5 of the SAC purports to be a picture of AutoStore's Red Line system, which utilizes cantilever robots to traverse an underlying grid. AutoStore denies that its Red Line system is an "off the shelf system." AutoStore further denies that its Red Line system has not "materially improved since 2005." AutoStore admits that its Red Line system utilizes cantilever robots that traverse the underlying grid using two perpendicular wheel assemblies—one in the X-direction and one perpendicular in the Y-direction. AutoStore also admits that the robot used in the Red Line system lifts storage containers (also known as bins) out of the column of the storage cube using the cantilever portion of the robot body. AutoStore further admits that the Red Line robots occupy two grid spaces. AutoStore denies the remaining allegations in paragraph 5 of the SAC.

6. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the allegations contained in paragraph 6 of the SAC and therefore denies the allegations on that basis. To the extent that paragraph 6 of the SAC is construed as alleging that AutoStore's Red Line systems are unsuitable generally, whether due to the four "examples" listed in paragraph 6 of the SAC or any other reasons, AutoStore denies the allegations contained in paragraph 6 of the SAC, including specifically the veracity of any of the four "example" provided in the paragraph or any allegation that AutoStore's Red Line system is generally unsuitable on account of those "examples."

7. AutoStore admits that it met with Ocado representatives in Norway in 2012, travelling to one of Ocado's automated warehouses in the United Kingdom later that year. AutoStore further admits that in 2012, Ocado contacted Hatteland Computer AS (the precursor to AutoStore) to acquire the right to buy the AutoStore system directly from Hatteland Computer, and to acquire exclusive rights to distribute the AutoStore system for sales in the grocery segment.

AutoStore further admits that Hatteland Computer rejected this proposal both because it had a multi-distribution strategy in all markets and because Ocado did not meet Hatteland Computer's criteria (in terms of experience, service organization, customer portfolio, *etc.*) for selling the AutoStore system. AutoStore further admits that Ocado ultimately purchased an AutoStore system in 2012 for use in one of its U.K. sites, using AutoStore's distributor Swisslog to manage the project. Indeed, on information and belief, as of the time when AutoStore met with Ocado in 2012, Ocado did not have a cubic AS/RS system. AutoStore denies the remaining allegations in paragraph 7 of the SAC. Further, to the extent that any allegation in paragraph 7 of the SAC implies that AutoStore believed, agreed, or expressed that anything proposed by Ocado to AutoStore in 2012 was new or an improvement to AutoStore's then-existing system, AutoStore denies the allegation.

8. AutoStore admits that what purports to be a video of Ocado's robots in operation is available on YouTube, at https://www.youtube.com/watch?v=4DKrcpa8Z_E, and that the image pasted in paragraph 8 of the SAC is a still image from that video. AutoStore admits that Ocado's robots occupy a single space on the storage grid and that storage bins are lifted inside a cavity in the robot's body. AutoStore also admits that in certain configurations the wheels of an OSP robot used in an Ocado CFC run on "double-double" rails. AutoStore denies the remaining allegations contained in paragraph 8 of the SAC. For example, to the extent Ocado alleges in paragraph 8 of the SAC that it "invent[ed]" a single-cell robot, AutoStore denies the allegation. Specifically, AutoStore invented and described a single-cell robot as of December 10, 2012, at the latest, as part of Norwegian patent application NO 20121488.

9. AutoStore admits that Ocado's robots move on top of a grid and are managed by control software to facilitate item storage and retrieval. AutoStore denies that Ocado's system is

advantageous in any way relative to AutoStore's systems. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 9 of the SAC and therefore denies the allegations on that basis.

10. AutoStore admits that Exhibit 1 to the SAC purports to be Ocado's Annual Report, and that at page 7 of Exhibit 1, the document states that Ocado has invested £124 million "in developing our OSP solutions in 2019." AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 10 of the SAC and therefore denies the allegations on that basis.

11. AutoStore admits that Ocado entered into a partnership with Kroger Co. ("Kroger") in 2018 to deploy OSPs at various sites (also referred to as "Customer Fulfillment Centers" or "CFCs"). AutoStore admits that paragraph 11 of the SAC cites several documents purporting to be press releases by Kroger regarding a partnership with Ocado. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 11 of the SAC and therefore denies the remaining allegations on that basis.

12. AutoStore admits that the U.S. Patent and Trademark Office ("USPTO") has issued U.S. Patent Nos. 9,796,080 ("'080 Patent"), 10,901,404 ("'404 Patent"), 10,913,602 ("'602 Patent"), and 10,961,051 ("'051 Patent") (collectively, the "Asserted Patents"), and that these patents indicate on their face that they were assigned to Ocado Innovation Limited. AutoStore admits that the SAC asserts infringement of the '080 Patent, the '404 Patent, the '602 Patent, and the '051 Patent against AutoStore. AutoStore denies the remaining allegations contained in paragraph 12 of the SAC.

13. AutoStore admits that it was owned by private equity firm EQT AB ("EQT") from January 2017 to July 2019, and was then acquired by the private equity firm Thomas H. Lee

Partners (“THL”) in July 2019. AutoStore denies the remaining allegations contained in paragraph 13 of the SAC.

14. AutoStore admits that it introduced its new Black Line system in 2019 and that the picture pasted in paragraph 14 of the SAC is a picture of AutoStore’s Black Line system. AutoStore denies that it infringes any of the asserted patents and denies the remaining allegations contained in paragraph 14 of the SAC.

15. AutoStore admits that its website at <https://autostoresystem.com/b1/> states: “B1 is a slimmed down, lighter robot with a Cavity design.” AutoStore admits that its website at <https://autostoresystem.com/news/autostore-voted-readers-choice-product-of-the-year/> states: “It combines the aware-winning design with high-volume throughput become ultra-optimized to meet the various needs of companies across multiple industries. State-of-the-art improvements to the robot and workstation modules provide companies the tools they need to provide 24/7 service.” AutoStore admits that the website <https://www.bastiansolutions.com/blog/autostore-black-line-your-questions-answered/> states: “A modified ‘double-double’ grid, with double tracks in both directions, permits the robots to pass side-by-side in both the x and y directions. Combined with the robot’s smaller footprint, the new grid can accept more robots and operate efficiently in high density configurations” and also “for customers with throughput requirements of up to 350 bins per hour per port. For Black Line, the new B1 robot, in combination with the new RelayPort can achieve up to 650 bins per hour per port – almost doubling today’s maximum throughput level.” AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 15 of the SAC and therefore denies the allegations on that basis.

16. AutoStore admits that the website at <https://www.globenewswire.com/news-release/2020/09/29/2100400/0/en/AutoStore-Introduces-Router-Game-changing-Productivity-Software-to-Solve-order-fulfillment-challenges-for-eCommerce.html> states: “AutoStore, the Norwegian robotics technology company, today announced the release of Router, a newly developed software suite for its cube based order fulfillment system that increases robot productivity and efficiency by up to 40%.” AutoStore denies the remaining allegations contained in paragraph 16 of the SAC.

17. AutoStore admits that the website at <https://www.globenewswire.com/news-release/2020/09/29/2100400/0/en/AutoStore-Introduces-Router-Game-changing-Productivity-Software-to-Solve-order-fulfillment-challenges-for-eCommerce.html> states: “Router utilizes sophisticated computer algorithms to continuously calculate and recalculate in real time the most efficient path for AutoStore robots to move and deliver orders inside the company’s high-density grid system. Every second, the advanced software analyzes and dynamically adapts to operational changes, accelerating the fulfillment process and maintaining a continuously optimized flow of order movement. In this way the system is able to process and adapt to continuously changing events happening outside the grid, such as new orders coming in, order cancellations, and movement of fulfillment personnel.” To the extent there are any remaining allegations contained or implied in paragraph 17 of the SAC, AutoStore denies them.

18. AutoStore admits that the website at <https://www.globenewswire.com/news-release/2020/09/29/2100400/0/en/AutoStore-Introduces-Router-Game-changing-Productivity-Software-to-Solve-order-fulfillment-challenges-for-eCommerce.html> states: “‘We’re excited to unveil the biggest development in AutoStore history in years.’ Based on over 20 years of research and development, Router is a disruptive technology that can be implemented in any AutoStore

system, whether a large-scale distribution center or a back-of-store micro-fulfillment center. This underscores the flexibility that has been a hallmark of AutoStore technology, and by purchasing this new software, users can potentially improve total system throughput by up to 4x.” AutoStore admits that there is a video at <https://www.youtube.com/watch?v=L8qNU6INf40> in which the video states: “incremental improvements are simply not enough, and we were forced to re-invent ourselves in order to grow”; “a new product that will unlock the full potential of AutoStore”; “this is one of the biggest milestones in the AutoStore history”; “the software has always been the silent piece behind the scenes that makes everything happen”; “positions AutoStore as the ultimate choice when it comes to eGrocery fulfillment”; and “the essence of our technology.” To the extent paragraph 18 of the SAC is construed to contain additional allegations, AutoStore denies them.

19. AutoStore admits that it has published marketing materials that are relevant to online grocery merchants. AutoStore denies the remaining allegations contained in paragraph 19 of the SAC.

20. AutoStore admits that Exhibit 17 of the SAC purports to be an AutoStore marketing document that discusses e-Grocery operations. AutoStore denies the remaining allegations contained in paragraph 20 of the SAC.

21. AutoStore admits that the picture in paragraph 21 of the SAC is included in Exhibit 17 to the SAC and that Ocado has added a white circle to the picture found in Exhibit 17. AutoStore denies the remaining allegations contained in paragraph 21 of the SAC.

22. AutoStore admits that Ocado has filed the present action seeking damages and injunctive relief. AutoStore filed two patent infringement actions in the United States against Ocado in October 2020. AutoStore admits that AutoStore filed the first action, which is stayed, in the Eastern District of Virginia. AutoStore admits that the second action is pending before the

U.S. International Trade Commission. AutoStore admits that Ocado filed the present action in the District of New Hampshire. AutoStore admits that Ocado Group plc filed *inter partes* review or post-grant review of all the patents asserted by AutoStore in those actions. AutoStore denies the remaining allegations contained in paragraph 22 of the SAC.

THE PARTIES

23. AutoStore admits that Ocado Solutions Ltd. is a U.K. subsidiary of Ocado Group plc that has responsibilities for partnering with grocery retailers to deploy systems for use by grocer retailers in other countries, including the United States. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 23 of the SAC and therefore denies the remaining allegations on that basis.

24. AutoStore admits that Ocado Innovation Ltd. is a U.K. subsidiary of Ocado Group plc. that provides technology and R&D services. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 24 of the SAC and therefore denies the remaining allegations on that basis.

25. AutoStore admits that AutoStore AS is a private Norwegian corporation with its headquarters and principal place of business at Stokkastrandvegen 85, 5578 Nedre Vats, Norway, and that AutoStore AS conducts R&D on Automated Storage and Retrieval Systems (“AS/RS”) and markets and sells the Red Line and Black Line AS/RS solutions. To the extent that there are additional allegations contained or implied in paragraph 25 of the SAC, AutoStore denies them.

26. AutoStore admits that AutoStore System Inc. is a Delaware corporation with its headquarters and principal place of business at 3 Corporate Park Drive, Unit 1, Derry, NH 03038. AutoStore admits that AutoStore System Inc. is a wholly owned subsidiary of AutoStore AS, and that AutoStore System Inc. markets AutoStore’s AS/RS systems to customers and distribution partners in the United States and provides design, engineering, training, and support (including

installation, testing, and repair) to customers and distribution partners in the United States. To the extent that there are additional allegations contained or implied in paragraph 26 of the SAC, AutoStore denies them.

JURISDICTION AND VENUE

27. AutoStore admits that this Court has subject matter jurisdiction over this patent infringement action.

28. AutoStore admits that this Court has personal jurisdiction over AutoStore System Inc. because its headquarters and principal place of business are located in Derry, New Hampshire. AutoStore also admits that this Court has personal jurisdiction over AutoStore AS. AutoStore denies the remaining allegations contained in paragraph 28 of the SAC.

29. For purposes of this matter only, AutoStore does not contest personal jurisdiction over AutoStore AS. AutoStore denies the remaining allegations contained in paragraph 29 of the SAC.

30. As stated in the preceding paragraph, for purposes of this matter only, AutoStore does not contest personal jurisdiction over AutoStore AS. AutoStore admits that Ocado's claims arise under federal law. AutoStore denies the remaining allegations contained in paragraph 30 of the SAC.

31. AutoStore admits that venue is proper in this District. AutoStore admits that AutoStore System Inc. has its headquarters in New Hampshire, and that AutoStore AS is a foreign corporation. AutoStore denies the remaining allegations contained in paragraph 31 of the SAC, including that it has committed acts of infringement in this District.

THE ASSERTED PATENTS

32. AutoStore admits that historically, to fulfill customer orders, retail grocery employees would pick items off shelves in warehouses. AutoStore also admits that such

warehouses had large amounts of empty space, which is wasteful and expensive in utilities and manpower and required people running to fetch items from shelves. AutoStore denies the remaining allegations contained in paragraph 32 of the SAC.

33. AutoStore admits that Cubic AS/RS includes vertical support beams, the tops of which are connected by rails to create an X/Y grid. AutoStore admits that Cubic AS/RS has at least two sets of rails, with the first set running perpendicular to the second set. AutoStore admits that Cubic AS/RS contains rectangular columns in which storage containers are stacked. AutoStore admits that the figures in paragraph 33 of the SAC contain some conceptual similarities to Ocado's system. AutoStore also admits that Ocado's Hive is an example of Cubic AS/RS. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 33 of the SAC and therefore denies them.

34. AutoStore admits that in certain types of Cubic AS/RS systems, storage containers (bins) are accessed from above by robots that travel laterally across the grid and are equipped with a device that enables them to retrieve containers from the vertical columns. AutoStore admits that, in certain types of Cubic AS/RS systems, such containers are placed into the robots' container-receiving space, which may be a cavity inside the body of the robot. AutoStore admits that the robots can transport the storage bins laterally across the grid and deliver them to a picking station. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in paragraph 34 of the SAC and therefore denies the remaining allegations on that basis.

35. AutoStore admits that OSP robots can communicate with a controller. AutoStore lacks knowledge or information sufficient to form a belief as to the truth of the remaining

allegations contained in paragraph 35 of the SAC and therefore denies the remaining allegations on that basis.

36. AutoStore denies the allegations contained in paragraph 36 of the SAC.

37. AutoStore admits that the SAC contains allegations of patent infringement for a claim for each of the Asserted Patents. AutoStore denies all such allegations and any remaining allegations contained in paragraph 37 of the SAC.

A. The '602 Patent

38. AutoStore admits that Exhibit 18 purports to be a copy of U.S. Patent No. 10,913,602, which was issued on February 9, 2021, and is titled “Apparatus for Retrieving Units from a Storage System.” To the extent there are any remaining allegations contained or implied in paragraph 38 of the SAC, AutoStore denies them.

39. AutoStore admits that Exhibit 19 purports to be U.S. Publication No. 2020/0307908 A1. AutoStore admits that the application that led to the '602 Patent, Application No. 16/902,459, was published on October 1, 2020, as Publication No. 2020/0307908. To the extent there are any remaining allegations contained or implied in paragraph 39 of the SAC, AutoStore denies them.

40. AutoStore admits that column 5, lines 5-6 of the '602 Patent includes the words “occupies substantially only a single grid space in the storage system.” AutoStore denies the remaining allegations contained in paragraph 40 of the SAC.

41. AutoStore admits that claim 1 of the '602 Patent recites that “such that a load handling device of the multiplicity of load handling devices ... will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the X-direction and will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the Y-direction.” AutoStore also admits

that AutoStore's Red Line cantilever robots occupied two grid spaces. AutoStore denies the remaining allegations contained in paragraph 41 of the SAC.

42. AutoStore admits that the claims of the '602 Patent do not recite the limitation "the robot strictly occupy only a single grid space." AutoStore admits that claim 1 of the '602 Patent includes the words "will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the X-direction and will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the Y-direction." AutoStore denies the remaining allegations contained in paragraph 42 of the SAC.

43. AutoStore admits that paragraph 43 of the SAC contains the words of claim 1 of the '602 Patent. AutoStore denies the remaining allegations contained in paragraph 43 of the SAC.

B. The '051 Patent

44. AutoStore admits that Exhibit 20 purports to be a copy of U.S. Patent No. 10,961,051, which was issued on March 30, 2021, and is titled "Apparatus for Retrieving Units from a Storage System." AutoStore admits that the '051 Patent purports to be a continuation of the '602 Patent. AutoStore denies the remaining allegations contained in paragraph 44 of the SAC.

45. AutoStore admits that the claims of the '051 Patent do not recite the limitation "all robots strictly occupy only a single grid space." AutoStore denies the remaining allegations contained in paragraph 45 of the SAC.

46. AutoStore denies the allegations contained in paragraph 46 of the SAC.

47. AutoStore admits that paragraph 47 of the SAC contains the words of claim 1 of the '051 Patent. AutoStore denies the remaining allegations contained in paragraph 47 of the SAC.

C. The '404 Patent

48. AutoStore admits that Exhibit 21 purports to be a copy of U.S. Patent No. 10,901,404, which was issued on January 6, 2021, and is titled “Methods, Systems and Apparatus for Controlling Movement of Transporting Devices.” To the extent there are any remaining allegations contained or implied in paragraph 48 of the SAC, AutoStore denies them.

49. AutoStore admits that Ocado’s Cubic AS/RS includes several robots that operate on a grid simultaneously. AutoStore is without information or knowledge as to the remainder of the allegations in paragraph 49 of the SAC and thus denies them on that basis.

50. AutoStore denies the allegations contained in paragraph 50 of the SAC.

51. AutoStore admits that claim 1 of the '404 Patent recites a system including a “movement optimization unit,” a “reservation unit,” and a “clearance unit.” AutoStore denies the remaining allegations contained in paragraph 51 of the SAC.

52. AutoStore denies the allegations contained in paragraph 52 of the SAC.

53. AutoStore denies the allegations contained in paragraph 53 of the SAC.

54. AutoStore denies that claim 1 of the '404 Patent recites that “[i]f the clearance unit predicts a collision, clearance is denied and a new path can be planned and reserved ‘dynamically’—at the time clearance is refused—for the non-cleared robot.” AutoStore also denies that either claim 5 or 9 requires that “[i]f the clearance unit predicts a collision, clearance is denied and a new path can be planned and reserved ‘dynamically’—at the time clearance is refused—for the non-cleared robot.” AutoStore admits that claim 9 of the '404 Patent contains the word “dynamically.” AutoStore likewise denies that dependent claims 5 and 9 of the '404 Patent contain limitations that were not found in prior art systems. AutoStore denies the remaining allegations contained in paragraph 54 of the SAC.

55. AutoStore denies that the '404 Patent's claims are not directed to an abstract idea or that they contain any "inventive concept." AutoStore denies that "[t]he system claimed in the '404 Patent is inextricably tied to the management of robots, which requires the controller to have capabilities humans do not have, including the ability to receive electronic status reports from the robots, to electronically track the location and movement of each robot, and to communicate electronically with the robots to provide predetermined paths and clearance commands." The claims of the '404 Patent encompass systems that may be operated by humans either in their mind or using well-known components that lack inventive concept. AutoStore denies the remaining allegations contained in paragraph 55 of the SAC.

56. AutoStore admits that the '404 Patent claims a system wherein the time between the time the clearance instruction is provided and the future time is a configurable parameter as claimed in dependent claim 2, wherein the clearance unit is configured to grant or withhold providing the clearance instruction for a transporting device to traverse a portion of the reserved path in response to a status report received from each transporting device as claimed in dependent claim 6, and wherein at least one of the clearance unit and the movement optimization unit is configured to dynamically re-plan a route of at least one transporting device as claimed in dependent claim 9. AutoStore also admits that the '404 Patent contains additional dependent claims with varying scope. AutoStore denies the remaining allegations contained in paragraph 56 of the SAC.

57. AutoStore admits that dependent claims 6 and 9 of the '404 Patent depend on claim 1 of the '404 Patent and therefore include all of the elements of claim 1. AutoStore admits that paragraph 57 of the SAC contains the words of claims 1, 6, and 9 of the '404 Patent. AutoStore denies the remaining allegations contained in paragraph 57 of the SAC.

D. The '080 Patent

58. AutoStore admits that Exhibit 23 purports to be a copy of the '080 Patent, which was issued on October 24, 2017, and is titled "Systems and Methods for Order Processing." AutoStore denies any remaining allegations contained in paragraph 58 of the SAC.

59. AutoStore admits that the figure in paragraph 59 of the SAC is found in the '080 Patent, and that it depicts one type of prior art system. AutoStore denies the remaining allegations contained in paragraph 59 of the SAC.

60. AutoStore denies the allegations contained in paragraph 60 of the SAC.

61. AutoStore admits that the figure in paragraph 61 of the SAC is found in the '080 Patent. AutoStore denies the remaining allegations contained in paragraph 61 of the SAC.

62. AutoStore admits that paragraph 62 of the SAC contains the words of claim 23 of the '080 Patent. AutoStore denies the remaining allegations contained in paragraph 62 of the SAC.

DEFENDANTS' ALLEGED INFRINGEMENT

63. AutoStore admits that it has offered for sale, sold, used, made, and/or imported into the United States (i) Red Line systems (including robots), (ii) Black Line systems (including robots), and (iii) the Router control system for use with the Red Line and Black Line systems since October 2020. AutoStore denies the remaining allegations in this paragraph.

64. AutoStore denies the allegations contained in paragraph 64 of the SAC.

65. AutoStore admits that the following sections of the SAC describe Ocado's infringement allegations, which AutoStore denies. AutoStore denies the remaining allegations contained in paragraph 65 of the SAC.

A. Modular Storage Grid – Black Line

66. AutoStore admits that AutoStore's Black Line system includes a cubic storage structure with the top level forming a grid. AutoStore further admits that, as seen in the figure in

paragraph 66 of the SAC, the structure is formed using vertical support beams, the tops of which are connected by a horizontal grid made up of two sets of parallel rails—one set of parallel rails in the X-direction perpendicular to the other set in the Y-direction. AutoStore further admits that this structure creates rectangular columns in which storage bins are stacks and which holds the bins in place. AutoStore denies it infringes any of Ocado’s asserted patents, and to the extent the allegations contained in paragraph 66 of the SAC are understood to relate specifically to the claim elements of any of Ocado’s asserted patents, AutoStore denies such allegations.

67. AutoStore admits that the horizontal grid for the Black Line system includes dual tracks, which are called “double-double” tracks, so that the B1 Robots may be able to pass side-by-side in both the X and Y direction depending on, *inter alia*, the orientation of the B1 Robots. AutoStore denies it infringes any of Ocado’s asserted patents, and to the extent the allegations contained in paragraph 67 of the SAC are understood to relate specifically to the claim elements of any of Ocado’s asserted patents, AutoStore denies such allegations.

B. B1 Robots - Black Line

68. The allegations in paragraph 68 of the SAC require claim construction which has not yet occurred, and therefore AutoStore denies these allegations at least because it lacks information sufficient to form a belief regarding the truth of these allegations.

69. The allegations in paragraph 69 of the SAC require claim construction which has not yet occurred, and therefore AutoStore denies these allegations at least because it lacks information sufficient to form a belief regarding the truth of these allegations.

70. AutoStore admits that Exhibit 25 discusses a “cavity” and states that the “bin lift mechanism is mounted inside to carry bins within the robot body.” In the context of Ocado’s asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 70 of the SAC, AutoStore denies them.

71. In the context of Ocado's asserted patents and to the extent that AutoStore can understand the allegations in paragraph 71 of the SAC, which are subject to the Court's future claim construction, AutoStore denies them.

C. Router – Red Line and Black Line

72. AutoStore admits that the website <https://autostoresystem.com/controller/> contains the words: “the command center of AutoStore” and also “Advanced traffic control; Planning and scheduling of tasks; Logging Bin and Robot positions in real time; ... Providing service & support functionality; ... Flexible, configurable alert system.” In the context of Ocado's asserted patents and to the extent AutoStore can understand the remaining allegations in paragraph 72 of the SAC, AutoStore denies them.

73. AutoStore admits that its Router-branded system was launched in September and October 2020. AutoStore further admits that its Router-branded system is compatible with both the Black Line and Red Line systems. AutoStore further admits that Exhibit 16 contains the words “continuously” and “[e]very second.” AutoStore further admits that the video at <https://www.youtube.com/watch?v=L8qNU6INf40> includes the words “deciding which robots to use for what job or which route that robot should take” and “working smarter.” In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 73 of the SAC, AutoStore denies them.

74. AutoStore admits that the image contained in paragraph 74 of the SAC appears in the video at <https://www.youtube.com/watch?v=OzfR3BypU2M>. In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 74 of the SAC, AutoStore denies them.

75. AutoStore admits that the video at <https://www.youtube.com/watch?v=OzfR3BypU2M> contains descriptions of the operation of the

Router. In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 75 of the SAC, which are subject to the Court's future claim construction, AutoStore denies them.

76. AutoStore admits that Exhibit 16 states that the Router software "analyzes and dynamically adapts to operational changes." AutoStore admits that the video at <https://www.youtube.com/watch?v=L8qNU6INf40> at 7:47 states: "constantly re-evaluating all the routes to ensure the best possible traffic flow, always." AutoStore admits that Exhibit 27 states: "continuously calculates and recalculates the most efficient path for robot movement in real-time – making each robot up to 40% more efficient." In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 76 of the SAC, AutoStore denies them.

D. Tote-in-Tote – Red Line and Black Line

77. AutoStore admits that Exhibit 17 contains the words "buffer completed orders into the system for later shipment." In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 77 of the SAC, AutoStore denies them.

78. AutoStore admits that, in the image above paragraph 78 of the SAC, there appear to be red bins and black bins, and that Ocado has circled a portion of the image in white. In the context of Ocado's asserted patents and to the extent that AutoStore can understand the remaining allegations in paragraph 78 of the SAC, AutoStore denies them.

79. AutoStore admits that it has been aware of the '080 Patent since January 20, 2021, when Ocado requested that AutoStore waive service of the original complaint in this matter. AutoStore denies the remaining allegations contained in paragraph 79 of the SAC.

**PLAINTIFFS’ ALLEGATIONS THAT “DEFENDANTS HAVE WILLFULLY
INFRINGEMENT AND CONTINUE TO WILLFULLY INFRINGE THE ASSERTED
PATENTS”**

80. AutoStore admits that in 2012 it met with Ocado regarding a potential partnership, but AutoStore denies that the parties “explor[ed] ... partnership in 2012 through which the companies would co-develop Ocado’s inventions.” AutoStore also admits that Ocado purchased, through AutoStore’s partner Swisslog, a Red Line system in 2012. AutoStore further admits that, in 2016, Ocado and AutoStore were involved in litigation in Norway before the Oslo District Court with respect to claims by Ocado of alleged misappropriation of Ocado’s inventions related to a robot that would lift storage containers up vertically into a cavity in the vehicle body. Further answering, the Oslo District Court and also the Appeal Court ruled in favor of AutoStore after considering AutoStore documents that proved AutoStore invented such a robot as of July 2010. AutoStore denies the remaining allegations contained in paragraph 80 of the SAC.

81. AutoStore denies the allegations contained in paragraph 81 of the SAC.

82. AutoStore denies the allegations contained in paragraph 82 of the SAC.

83. AutoStore admits that Ocado filed four *inter partes* review petitions against AutoStore’s patents. AutoStore denies the remaining allegations contained in paragraph 83 of the SAC.

84. AutoStore admits that it initiated entitlement proceedings against Ocado in the United Kingdom regarding various EP and GB patents. AutoStore denies the remaining allegations contained in paragraph 84 of the SAC.

85. AutoStore denies the allegations contained in paragraph 85 of the SAC.

86. AutoStore denies the allegations contained in paragraph 86 of the SAC.

87. AutoStore admits that it has been aware of the asserted patents since January 20, 2021, when Ocado requested that AutoStore waive service of the original complaint in this matter,

except for the '051 Patent, for which AutoStore only gained knowledge of alleged infringement on April 14, 2021. To the extent there are any remaining allegations contained or implied in paragraph 87 of the SAC, AutoStore denies them.

FIRST COUNT I
ALLEGED PATENT INFRINGEMENT
'602 PATENT AND BLACK LINE
35 U.S.C. §§ 271 AND 281

88. AutoStore incorporates by reference its responses to paragraphs 1 through 87 of the SAC.

89. AutoStore denies the allegations contained in paragraph 89 of the SAC.

90. AutoStore denies the allegations contained in paragraph 90 of the SAC.

91. AutoStore admits that claim 1 of the '602 Patent recites: “1. A storage system comprising: a first set of parallel rails or tracks extending in an X-direction, and a second set of parallel rails or tracks extending in a Y-direction transverse to the first set of rails or tracks in a substantially horizontal plane to form a grid pattern having a plurality of grid spaces; a plurality of stacks of containers located beneath the first and second set of rails or tracks, and arranged such that each stack is located within a footprint of a single grid space; and a multiplicity of load handling devices, wherein each load handling device includes: a wheel assembly having a first set of wheels for engaging with the first set of rails or tracks to guide device movement in the X-direction and a second set of wheels for engaging with the second set of rails or tracks to guide device movement in the Y-direction, such that each load handling device is configured to selectively move laterally in the X- and Y-directions, above the plurality of stacks on the first and second sets of rails or tracks: a container-receiving space arranged to be located above the first and second sets of rails or tracks for accommodating a container when received from the plurality of stacks: a lifting device arranged to lift the container from a stack of the plurality of stacks into the

container-receiving space, and an external housing that is shaped substantially in a cuboid having two sides facing the X-direction, two sides facing the Y-direction, and a top facing a Z-direction, such that the external housing substantially encloses the container-receiving space from above and on all four sides of the load handling device, a side of the external housing facing the Y-direction extending no further, in the Y-direction, than the first set of wheels on that side of the load handling device, and a side of the external housing facing the X-direction extending no further, in the X-direction, than the second set of wheels on that side of the load handling device, such that a load handling device of the multiplicity of load handling devices will occupy a grid space and will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the X-direction and will not obstruct a load handling device of the multiplicity of load handling devices occupying or traversing an adjacent grid space in the Y-direction.” AutoStore admits the allegations contained in paragraph 91(a)(ii), 91(b)(ii), and 91(c)(ii), except to the extent those paragraphs incorporate by reference allegations from paragraphs 66-67, 71, and 74-75 that AutoStore has denied; AutoStore reincorporates herein by reference its response to paragraphs 66-67, 71, and 74-75 of the SAC listed above, specifically including its denials of certain allegations therein. AutoStore denies the remaining allegations contained in paragraph 91 of the SAC.

- 92. AutoStore denies the allegations contained in paragraph 92 of the SAC.
- 93. AutoStore denies the allegations contained in paragraph 93 of the SAC.
- 94. AutoStore denies the allegations contained in paragraph 94 of the SAC.
- 95. AutoStore denies the allegations contained in paragraph 95 of the SAC.

SECOND COUNT
ALLEGED PATENT INFRINGEMENT
'051 PATENT AND BLACK LINE / RED LINE
35 U.S.C. §§ 271 AND 281

96. AutoStore incorporates by reference its responses to paragraphs 1 through 95 of the SAC.

97. AutoStore denies the allegations contained in paragraph 97 of the SAC.

98. AutoStore admits that claim 1 of the '051 Patent recites: "1. A load handling system comprising: a first load handling device comprising: a first housing; a first plurality of wheels configured to engage a first set of rails of a grid frame to guide movement of the first housing in a first direction along a top side of the grid frame, the grid frame comprising a three-dimensional storage structure configured to store a plurality of containers; a second plurality of wheels configured to engage a second set of rails of the grid frame to guide movement of the first housing in a second direction perpendicular to the first direction along the top side of the grid frame, two consecutive rails of the first set of rails and two consecutive rails of the second set of rails defining a grid space for the grid frame; and a crane device comprising a cantilever arm and a gripper plate, the cantilever arm extending laterally from a top side of the first housing, the gripper plate being configured to suspend from the cantilever arm and engage with a top side of a first container of the plurality of containers, the first container being configured to fit between the two consecutive rails of the first set of rails and the two consecutive rails of the second set of rails; and a second load handling device comprising: a second housing comprising two lateral sides, a front side, a back side, and a top side that together form part of an external structure that at least partly encloses an inner portion of the second housing, wherein the top side of the second housing being is taller than the top side of the first housing; a third plurality of wheels configured to engage the first set of rails to guide movement of the second housing in the first direction along the top side of the

grid frame; a fourth plurality of wheels configured to engage the second set of rails to guide movement of the second housing in the second direction along the top side of the grid frame; and a lifting device comprising a lift motor configured to lift a second container from a stack of the plurality of containers positioned within the three-dimensional storage structure and fully into a container receiving space in the inner portion of the second housing, the second container being of the same size as the first container, wherein the first housing has a housing footprint that occupies twice an area of the grid space, and the second housing has a housing footprint that occupies less than twice the area of the grid space.” AutoStore further admits that the accused systems comprise “A load handling system comprising: a first load handling device comprising: a first housing; a first plurality of wheels configured to engage a first set of rails of a grid frame to guide movement of the first housing in a first direction along a top side of the grid frame, the grid frame comprising a three-dimensional storage structure configured to store a plurality of containers; a second plurality of wheels configured to engage a second set of rails of the grid frame to guide movement of the first housing in a second direction perpendicular to the first direction along the top side of the grid frame, two consecutive rails of the first set of rails and two consecutive rails of the second set of rails defining a grid space for the grid frame,” and that the accused systems comprise a first set of wheels for moving in one perpendicular direction and a second set of wheels for moving in the second perpendicular direction. AutoStore admits that the accused systems comprise “a third plurality of wheels configured to engage the first set of rails to guide movement of the second housing in the first direction along the top side of the grid frame; a fourth plurality of wheels configured to engage the second set of rails to guide movement of the second housing in the second direction along the top side of the grid frame.” AutoStore denies the remaining allegations contained in paragraph 98 of the SAC.

- 99. AutoStore denies the allegations contained in paragraph 99 of the SAC.
- 100. AutoStore denies the allegations contained in paragraph 100 of the SAC.
- 101. AutoStore denies the allegations contained in paragraph 101 of the SAC.
- 102. AutoStore denies the allegations contained in paragraph 102 of the SAC.

THIRD COUNT
ALLEGED PATENT INFRINGEMENT
'404 PATENT AND BLACK LINE / RED LINE
35 U.S.C. §§ 271 AND 281

103. AutoStore incorporates by reference its responses to paragraphs 1 through 102 of the SAC.

104. AutoStore denies the allegations contained in paragraph 104 of the SAC.

105. AutoStore denies the allegations contained in paragraph 105 of the SAC

106. AutoStore admits that claim 1 of the '404 Patent recites: "1. A system for controlling movement of transporting devices arranged to transport containers, the containers being stored in stacks arranged in a facility, the facility having pathways arranged in a grid-like structure above the stacks, the transporting devices being configured to operate on the grid-like structure, the system comprising: a movement optimisation unit configured to determine a route of a transporting device from one location on a grid-like structure to another location on the grid-like structure for each transporting device; a reservation unit configured to reserve a path on the grid-like structure for each transporting device based on the determined route, wherein the path reserved for each transporting device is provided such that no two transporting devices have locations on the grid-like structure which would cause transporting devices to overlap at a same time; and a clearance unit configured to provide a clearance instruction for each transporting device to traverse a portion of the reserved path, wherein the clearance instruction is provided for execution by a control unit on each transporting device at a future time." AutoStore admits that

the accused systems comprise a “system for controlling movement of transporting devices arranged to transport containers, the containers being stored in stacks arranged in a facility, the facility having pathways arranged in a grid-like structure above the stacks, the transporting devices being configured to operate on the grid-like structure” and that AutoStore’s Router is designed to, *inter alia*, control the movement of robots that are arranged to transport bins from one location to another on the cubic storage system, but AutoStore denies that this is an “element” of the claim and that the preamble is limiting. AutoStore denies the remaining allegations contained in paragraph 106 of the SAC.

107. AutoStore denies the allegations contained in paragraph 107 of the SAC.

108. AutoStore denies the allegations contained in paragraph 108 of the SAC.

109. AutoStore denies the allegations contained in paragraph 109 of the SAC.

110. AutoStore denies the allegations contained in paragraph 110 of the SAC.

FOURTH COUNT
ALLEGED PATENT INFRINGEMENT
’080 PATENT AND BLACK LINE / RED LINE
35 U.S.C. §§ 271 AND 281

111. AutoStore incorporates by reference its responses to paragraphs 1 through 110 of the SAC.

112. AutoStore denies the allegations contained in paragraph 112 of the SAC.

113. AutoStore denies the allegations contained in paragraph 113 of the SAC

114. AutoStore admits that claim 23 of the ’080 Patent recites: “23. A system for managing storage and retrieval of containers, comprising: a storage and retrieval system including: a structural framework defining a grid of storage locations for receiving a plurality of containers; a plurality of robotic load handlers each configured to access any one of the storage locations in the grid of the structural framework; and a controller configured to control at least one robotic

handler in transporting at least one of the plurality of containers to/from any one of the storage locations in the grid, wherein the plurality of containers includes storage containers configured to store products to be ordered, delivery containers configured to store products at least partially fulfilling an order, and combined containers including at least one delivery container nested within a storage container.” AutoStore admits the allegations contained in paragraph 114(a)(i) and 114(b)(i), except to the extent those paragraphs incorporate by reference allegations from paragraphs 5-6, 66-67, 73, and 79 that AutoStore has denied; AutoStore reincorporates herein by references its response to paragraphs 5-6, 66-67, 73, and 79, specifically including its denials of certain allegations therein. AutoStore denies the remaining allegations contained in paragraph 114 of the SAC.

115. AutoStore denies the allegations contained in paragraph 115 of the SAC.

116. AutoStore denies the allegations contained in paragraph 116 of the SAC.

117. AutoStore denies the allegations contained in paragraph 117 of the SAC.

118. AutoStore denies the allegations contained in paragraph 118 of the SAC.

JURY DEMAND

119. No response is required to jury demands. To the extent that a response is required, AutoStore agrees to, and similarly demands, a jury trial of all issues in this action so triable.

PRAYER FOR RELIEF

120. No response is required to prayers for relief. To the extent that a response is required, AutoStore denies that Ocado is entitled to any of the relief sought in its SAC.

AFFIRMATIVE DEFENSES

121. AutoStore incorporates the foregoing responses as though fully set forth in each of the affirmative defenses listed below. Further, AutoStore reserves the right to further amend this answer and assert any other affirmative defenses available to it at any time in the future. Without

conceding that any of the following must be pled as affirmative defenses or that AutoStore has the burden of proof on any of them, AutoStore alleges the following affirmative defenses:

FIRST AFFIRMATIVE DEFENSE

(Invalidity)

122. All of Ocado’s asserted patents—*i.e.*, the ’080 Patent, the ’404 Patent, the ’602 Patent, and the ’051 Patent (collectively, the “Asserted Patents”)—are invalid for failure to satisfy one or more of the conditions for patentability specified in Title 35 of the United States Code.

123. The Asserted Patents are all invalid as anticipated and obvious under 35 U.S.C. §§ 102 and 103. For example, as discussed in the allegations supporting AutoStore’s affirmative defense of inequitable conduct (incorporated herein by reference), AutoStore’s own products and related product documentation (including AutoStore’s Red Line system and related product documentation) anticipate and/or, when combined with additional prior art references, render obvious one or more of the asserted patents, at least if this Court accepts Ocado’s infringement theories. As discussed more fully in AutoStore’s affirmative defense of inequitable conduct below, Ocado studied and operated an AutoStore Red Line system at least during the 2011 – Q1 2013 time frame, such that Ocado’s system is premised on AutoStore’s technology and it is not surprising that AutoStore’s Red Line technology is material prior art that invalidates Ocado’s Asserted Patents.

124. The Asserted Patents are all also invalid for failure to comply with one or more requirements of 35 U.S.C. § 112, including the written description, enablement, and/or definiteness requirements.

125. At least the ’404 Patent is invalid as ineligible subject matter under 35 U.S.C. § 101.

126. At least the '404, '051, and '602 Patents are invalid for improper inventorship because the named inventors on these patents did not themselves invent the claimed technology, as required by 35 U.S.C. §§ 101 and 115.

127. AutoStore incorporates herein by reference its forthcoming contentions and expert reports, which will be served in due course in accordance with the Court's schedule in this matter.

SECOND AFFIRMATIVE DEFENSE

(No Infringement)

128. AutoStore has not infringed and does not currently infringe any claim of Ocado's Asserted Patents (*i.e.*, the '080 Patent, the '404 Patent, the '602 Patent, and the '051 Patent), literally or under the doctrine of equivalents, directly or indirectly, or willfully.

129. AutoStore incorporates herein by reference its forthcoming contentions and expert reports, which will be served in due course in accordance with the Court's schedule in this matter.

THIRD AFFIRMATIVE DEFENSE

(Inequitable Conduct Regarding the '404 Patent)

130. AutoStore is a pioneer in the field of automated storage and retrieval systems (AS/RS), having researched, developed, and commercialized the world's first cubic AS/RS system using robots to pick up and transport storage containers at least as early as the early 2000s. AutoStore has carried out a considerable volume of research and development work in the field of robotic technology, including robotic storage and retrieval systems, by reason of which it has acquired substantial technical information and know-how in connection with the aforesaid fields.

131. Since in or around 1996, AutoStore has been engaged in the business of researching, developing, and implementing new ideas and inventions in connection with robotic technology, including robotic storage and retrieval systems.

132. On or around October 15, 1999, an article was published by a Danish technical newspaper / magazine which shows a facility comprising a series of stacks, arranged in a grid-like fashion, in which containers (containing inventory items) are stacked. The article further shows robots performing various activities, including retrieving containers from within the facility, moving containers around the facility, and delivering containers to workstations.

133. In or around 2003, AutoStore produced and distributed a catalogue which describes, *inter alia*, certain aspects of the AutoStore system, including the automated storage, retrieval, and movement of containers by robots moving on a grid-like structure.

134. On or around December 10, 2004, a news article published by the Norwegian technology magazine “Teknisk Ukeblad” (including at the following website address: <https://www.tu.no/artikler/autostore-vant-ingeniorbragden-%202004/245066>) disclosed a facility in which containers are stored in a number of stacks, above which stacks robots move on a grid so as to retrieve containers and relocate the same to an alternative location within the stacks and/or deliver the same to a workstation.

135. Between in or about September 2011 and a date no earlier than in or about September 2012, AutoStore engaged with and provided materials to Ocado in connection with robotic technology, including robotic storage and retrieval systems.

136. For example, on or around September 29, 2011, an AutoStore system was inspected by Ocado, including James Matthews, Simon Belsham, and Sverker Lindbo. The aforesaid AutoStore system was installed and operational at premises in Sandefjord, Norway, which premises were operated by a third party-company known as Komplette which is engaged in the e-commerce business. On or around December 12, 2011, the same AutoStore system was further inspected by Ocado, including Ben Richardson, Jen Shields, Mark Fryer, Ian Starling, and Jon

Hillary. During each of these inspections, Ocado observed the AutoStore system and aspects of its operation, including the layout of the facility; the movement and activities of robots on and around the grid; containers, and their retrieval, movement, and placement by robots on the grid; containers located within the facility which contained different types of inventory, or no inventory at all; the arrangement and distribution of workstations; and delivery of containers by robots to or near workstations. On or around February 2012, AutoStore provided Ocado with the Warehouse Management System (“WMS”) Interface Specification via Swisslog. During a telephone call on or around March 6, 2012, AutoStore discussed aspects of the AutoStore system with Ocado, including Cam Mac, Dave Wood, Andrew Cook, Richard Haywood, and Tony Norris. On or around April 20, 2012, AutoStore agreed to make available to Ocado certain software to enable Ocado to simulate and observe (by computer-generated imaging) the operation of an AutoStore system. The software would enable Ocado to, *inter alia*, provide certain commands to the AutoStore system and to observe the operation of the AutoStore system responsive to those commands. AutoStore would provide Ocado with a test license key code to enable Ocado to perform the aforesaid simulations and testing. From a date on or around April 30, 2012, AutoStore provided access to an FTP download website to Ocado via Swisslog. The website provided for download of the software required to operate the AutoStore system simulation. Further, AutoStore provided to Ocado a test license key code to enable Ocado to run and operate the simulation software. On or around the same date, AutoStore provided to Ocado (via Swisslog) instructions for downloading from the FTP website, installing, and operating the aforesaid simulation tool. On or around May 31, 2012, AutoStore provided to Ocado (including Cam Mac) a further license key code. By the provision of such license key, Ocado was enabled to continue use of the simulation software until at least a date in November 2012. On or around May 22 and 23, 2012, AutoStore

conducted training days for the benefit of Ocado (including Cam Mac, Richard Haywood, and Rajinder Bhatti) comprising approximately 16 hours' training in relation to the AutoStore system. During these training days, AutoStore provided to Ocado two PowerPoint presentations entitled "AutoStore Simulation" and "AutoStore Bin Interface Guidelines." AutoStore explained and discussed the teachings in and connected with each of the aforesaid presentations with Ocado. Further, by an email of Ingvar Fagerland of May 29, 2012, AutoStore provided the aforesaid presentations to Ocado (including Cam Mac and Richard Haywood) in electronic form. Further, during these training days, AutoStore demonstrated and permitted Ocado to operate an AutoStore system simulation. During or around March 2012, Ocado agreed to purchase an AutoStore system from AutoStore. During or about July 2012, a site was established in Welwyn Garden City, United Kingdom for the installation of the aforesaid AutoStore system. The aforesaid AutoStore system became operational and was used by Ocado no later than Q1 2013. Prior to the date on which the AutoStore system became operational, Ocado was provided with the 'User Manual – Safety Concepts' document.

137. As a result of the interactions referenced above, AutoStore provided to Ocado substantial technical information (including in documentation) and know-how relating to robotic technology and AutoStore's Red Line system and robots specifically, including with respect to certain route-planning functionality that helps determine, optimize, and reserve the pathways for robots' movement around the facility embodied by such Red Line systems.

138. The earliest claimed priority date of the '404 Patent is June 3, 2014, making the '404 Patent subject to the provisions of the America Invents Act ("AIA"). As a result, the Red Line system that Ocado inspected, studied, and used in 2011 through at least Q1 2013 is prior art at least under 35 U.S.C. § 102(a).

139. The '404 Patent application was prosecuted by Sean M. Douglass (Registration No. 78,157) and Patrick C. Keane (Registration No. 32,858). Mr. Douglass and Mr. Keane owe a duty of candor and good faith in dealing with the USPTO, including specifically with respect to the prosecution of the patent application that led to the issuance of the '404 Patent as well as all other applications in the same family they prosecuted. *See* 37 C.F.R. § 1.56.

140. Mr. Douglass and Mr. Keane submitted several Information Disclosure Statements (IDS) to the USPTO during prosecution of the '404 Patent application and in related patent applications. On information and belief, both Messrs. Douglass and Keane, as well as individuals at Ocado, were aware of the way the Red Line system implemented route planning. Despite that awareness, however, Messrs. Douglass and Keane never disclosed the operation of the prior art AutoStore Red Line system that embodied the functionality recited by at least one claim of the '404 Patent according to Ocado's infringement theory.

141. Mr. Douglass and Mr. Keane were aware of AutoStore's technology and the fact that AutoStore had technology that was relevant to the prosecution of at least U.S. Application No. 16/575,906 ("the '906 Application"), which issued as the '404 Patent application. For example, on November 6, 2019, Mr. Douglass and Mr. Keane submitted an IDS listing "AutoStore Logistics – Technical Presentation, www.youtube.com/watch?v=lyVDMp2bL9c" and also "Swisslog AutoStore Review: An In-Depth Review of Automated Split Case Picking Technology for Distribution, MWPVL, Logistics Consultants, www.mwpvi.com/html/swisslog_autostore_review.html." On information and belief, Mr. Douglass and Mr. Keane were aware of AutoStore's prior art Red Line system by virtue of the Red Line's public commercial deployment, its relationship to the materials cited in the November

6, 2019 IDS, and/or its inspection and use by Ocado, which Mr. Douglass and Mr. Keane represented.

142. Likewise, Mr. Robert Stadie, a listed inventor on the '404 Patent, owed a duty of candor and good faith in dealing with the USPTO with respect to the prosecution of the application that led to the '404 Patent and all other applications in the same family. Mr. Stadie was aware of AutoStore's technology and the fact that AutoStore had technology that was relevant to the prosecution of the '906 Application. For example, Mr. Stadie attended at least one meeting with AutoStore in April 2012, at which Ocado received information about the Red Line system. Following the meeting, AutoStore provided additional information to Ocado about the Red Line system, including training information for the AutoStore Bin Interface Guidelines, the AutoStore Bin Interface Protocol, and simulations of the Red Line system. On information and belief, at least Mr. Stadie received this information, which permitted Ocado to observe the functionality of the AutoStore routing functionality used in the Red Line system in 2012.

143. On information and belief, notwithstanding that Mr. Stadie, Mr. Douglass, and Mr. Keane were aware of the relevance of AutoStore's technology, they intentionally did not disclose the prior art use and sale of AutoStore's Red Line system that embodied certain route-planning functionality referenced above.

144. On January 17, 2021, Ocado sued AutoStore in this matter, asserting that AutoStore's Red Line products as used with the Router infringe the '404 Patent.

145. The functionality in AutoStore's accused Red Line and Black Line products using the Router has not materially changed in relevant respect (*i.e.*, in relation to at least claim 1 of the '404 Patent) since the operation of the prior art Red Line system that was publicly used at least as early as 2011 and inspected and used by Ocado since 2012. Although the Router has undergone

changes since the version used in AutoStore's Red Line system in 2011–13, those changes have not changed the functionality of the system as it relates to at least claim 1 of the '404 Patent.

146. As discussed above and reincorporated herein by reference, AutoStore's Red Line products do not infringe the '404 Patent. For example, AutoStore's Red Line products do not contain a "clearance unit configured to provide a clearance instruction for each transporting device to traverse a portion of the reserved path, wherein the clearance instruction is provided for execution by a control unit on each transporting device at a future start time." Under Ocado's apparent interpretation of the '404 Patent claims, however, AutoStore's Red Line products do contain functionality that satisfy each limitation of at least claims 1 and 9 of the '404 Patent, and have also contained such functionality since well before the priority date of the '404 Patent.

147. Given Ocado's infringement theory, in the event that AutoStore's Red Line products are found to infringe the '404 Patent, then AutoStore's prior art Red Line system is necessarily "but for" material, anticipatory prior art that was not disclosed to the USPTO during prosecution of the '404 Patent. Ocado's assertion of the '404 Patent against AutoStore's Red Line systems is a binding admission that Ocado, through at least Mr. Stadie, and its agents Mr. Douglass and Mr. Keane knew that AutoStore's Red Line systems were "but for" material prior art.

148. Even if AutoStore's Red Line products are not found to infringe the '404 Patent, AutoStore's prior art Red Line system is still material prior art when considered in combination with other prior art disclosing any limitations otherwise missing from AutoStore's prior art Red Line system, which were all known in the art. The Examiner overseeing the '404 Patent application would not have issued the '404 Patent had the Examiner known all relevant details of AutoStore's prior art Red Line system and considered such prior art in combination with other references.

149. On information and belief, Mr. Stadie, Mr. Douglass, and Mr. Keane, acting on behalf of Ocado, committed inequitable conduct on the USPTO by intentionally failing to disclose material prior during prosecution of the '404 Patent, namely AutoStore's prior art Red Line System, in order to secure the issuance of the '404 Patent.

150. In short, the inequitable conduct committed on the USPTO (based on information and belief) can be summarized as follows:

Who: At least Messrs. Robert Stadie, Sean M. Douglass and Patrick C. Keane.

What: AutoStore's prior art Red Line system, which was commercially deployed at least in the United States and in Europe, and also inspected and used by Ocado long before the '404 Patent's earliest possible priority date, yet not disclosed to the USPTO.

Where: Before the USPTO, to which Messrs. Stadie, Douglass, and Keane owed a duty of candor with respect to the prosecution of the '906 Application and its family members.

When: During prosecution of the '906 Application and its family members.

How: Messrs. Stadie, Douglass, and Keane intentionally failed to disclose AutoStore's prior art Red Line system to the USPTO.

Why: Messrs. Stadie, Douglass, and Keane intentionally did not disclose the prior art use or sale of AutoStore's Red Line system in order to secure the issuance of the '404 Patent.

FOURTH AFFIRMATIVE DEFENSE

(Prosecution History Estoppel, Claim Vitiating, And Ensnarement)

151. To the extent that Ocado alleges infringement under the doctrine of equivalents, the relief sought by Ocado is barred under the doctrine of prosecution history estoppel, claim vitiating, and/or ensnarement.

FIFTH AFFIRMATIVE DEFENSE

(No Injunctive Relief)

152. Ocado's claims for injunctive relief are barred, including because Ocado cannot show that it will suffer any irreparable harm from AutoStore's actions. AutoStore denies that Ocado has suffered an irreparable injury. Ocado's alleged injury or damage suffered, if any, would be adequately compensated by damages, if any. AutoStore denies that upon considering the balance of hardships between Ocado and AutoStore, a remedy in equity is warranted. AutoStore further states that the public interest would be disserved by a permanent injunction, including because it would limit consumer choice. Accordingly, Ocado has a complete and adequate remedy at law and is not entitled to seek injunctive relief.

SIXTH AFFIRMATIVE DEFENSE

(Use by the U.S. Government)

153. To the extent that the accused products have been used or manufactured by or for the United States, Ocado's claims for relief and alleged damages are barred by 28 U.S.C. § 1498(a).

SEVENTH AFFIRMATIVE DEFENSE

(No Fees)

154. Ocado's claims for enhanced damages, an award of fees, and costs under 35 U.S.C. §§ 285 have no basis in fact or law and should be denied.

155. AutoStore has engaged in all relevant activities in good faith and has not engaged in any conduct that would make this an exceptional case, thereby precluding Ocado, even if it were to prevail, from recovering its reasonable attorneys' fees.

EIGHTH AFFIRMATIVE DEFENSE

(No Double Recovery)

156. Without admitting that the SAC states a claim, any remedies are limited to the extent that there is sought an overlapping or duplicative recovery pursuant to the various claims against AutoStore or others for any alleged single wrong.

NINTH AFFIRMATIVE DEFENSE

(Damages Limitations)

157. Ocado has not suffered any legally cognizable damages resulting from AutoStore's conduct. Without admitting that the SAC states a claim, there has been no damage at all by reason of any act alleged against AutoStore in the SAC, and the relief prayed for in the SAC therefore cannot be granted.

158. To the extent Ocado has suffered any damages, all of which AutoStore denies, Ocado failed to mitigate their damages, if any, in whole or in part, by virtue of, among other things, having failed to bring its allegations of infringement to AutoStore sooner.

159. Ocado's claims for damages are also limited by 35 U.S.C. §§ 286, 287 (including for failure to mark any practicing products), and/or 288.

TENTH AFFIRMATIVE DEFENSE

(Unclean Hands)

160. One or more of the asserted patents are unenforceable, in whole or in part, under the doctrine of unclean hands.

161. For example, the instant litigation is baseless and a thinly veiled attempt by Ocado to thwart lawful competition by AutoStore. Ocado's efforts have had a chilling effect on AutoStore's business

162. As a further example of Ocado's unclean hands, Ocado has long been intimately aware of AutoStore's technology including, for example, by virtue of Ocado's purchase, of a Red Line system in 2012. Ocado improperly studied AutoStore's prior art technology and sought patent protection for what constitutes, at least under Ocado's infringement theory, the same technology and/or technology that is not patentably distinct from AutoStore's prior art technology. Notably, Ocado has an extensive history of improperly claiming to have invented technology that it did not actually invent, as described more fully in, for example, the U.K. action that AutoStore initiated against Ocado on November 9, 2020, regarding EP3152712, GB2528568, GB2565239, GB2565241, and GB2565240, and in an unsuccessful Norwegian entitlement proceeding initiated by Ocado in the Oslo District Court regarding AutoStore's NO 335 839 patent and EP application nos. 2962962, 2928794, and 1616677.1, in which the court ruled that AutoStore create the inventions described in those patents and applications well before Ocado claimed to have made the inventions.

ELEVENTH AFFIRMATIVE DEFENSE

(No Enhanced Damages)

163. Ocado is not entitled to seek enhanced damages for AutoStore's alleged willful infringement because AutoStore has not willfully infringed, Ocado failed to provide notice of alleged infringement prior to the filing of its complaint, and/or because Ocado has otherwise failed to meet the requirements for willfulness.

RESERVATION OF RIGHTS

AutoStore is presently investigating the facts relating to the issuance of Ocado's asserted patents, the ownership history of Ocado's asserted patents, and Ocado's assertions of infringement against AutoStore, and AutoStore will continue its investigation throughout the discovery process. To the extent that this investigation reveals any additional affirmative defenses in connection with

such matters, AutoStore reserves the right to seek leave to amend to assert such allegations and/or defenses that may be appropriate.

In addition to the defenses described above, AutoStore reserves all defenses under Rule 8(c) of the Federal Rules of Civil Procedure, the patent laws of the United States, and any other defenses, at law or in equity, which may now exist or in the future become available based on discovery and further factual investigation in this case.

COUNTERCLAIMS

Pursuant to Federal Rule of Civil Procedure 13, AutoStore AS and AutoStore System Inc. (collectively, “AutoStore”) allege the following:

NATURE OF THE ACTION

1. AutoStore seeks declaratory judgments of non-infringement and invalidity of U.S. Patent Nos. 10,913,602 (“’602 Patent”); 10,961,051 (“’051 Patent”); 10,901,404 (“’404 Patent”); and 9,796,080 (“’080 Patent”) (collectively, “Ocado’s asserted patents”) that have been asserted by Ocado against AutoStore in the present action.

THE PARTIES

2. AutoStore AS is a private Norwegian corporation with its headquarters and principal place of business at Stokkastrandvegen 85, 5578 Nedre Vats, Norway. AutoStore AS conducts R&D on Automated Storage and Retrieval Systems (“AS/RS”) and markets and sells the Red Line and Black Line AS/RS solutions.

3. AutoStore System Inc. is a Delaware subsidiary of AutoStore AS. Its headquarters and principal place of business are at 3 Corporate Park Drive, Unit 1, Derry, NH 03038. AutoStore System Inc. markets AutoStore’s AS/RS systems to customers and partners in the U.S., and it also provides design, engineering training, and support (including installation, testing, and repair) to customers and partners in the United States.

4. On information and belief, Ocado Solutions Ltd. is a U.K. subsidiary of Ocado Group plc that has responsibilities for partnering with grocery retailers to deploy systems for use by grocery retailers in various countries, including the United States.

5. On information and belief, Ocado Innovation Ltd. is a U.K. subsidiary of Ocado Group plc that provides technology and R&D services. (Ocado Innovation Ltd. and Ocado Solutions Ltd. are collectively referred to herein as “Ocado.”)

JURISDICTION AND VENUE

6. This Court has jurisdiction over AutoStore’s claims pursuant to 28 U.S.C. §§ 2201 *et seq.* and 28 U.S.C. §§ 1331 and 1338(a). Furthermore, an actual, substantial, and continuing justiciable controversy exists between AutoStore and Ocado based on Ocado having filed the SAC against AutoStore alleging infringement of Ocado’s asserted patents. The controversy concerns the invalidity and non-infringement of Ocado’s asserted patents.

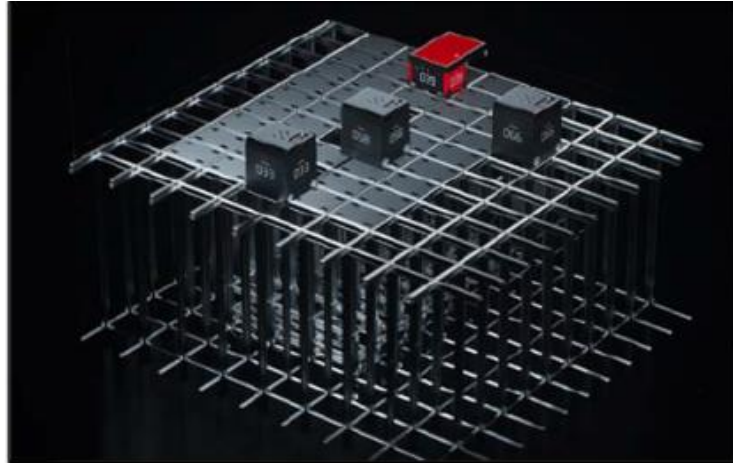
7. The Court has personal jurisdiction over Ocado because, *inter alia*, Ocado has submitted to the personal jurisdiction of this Court by filing the SAC.

8. Venue is proper in this District as to these counterclaims pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because, *inter alia*, Ocado has submitted to the venue of this Court by filing its SAC here.

BACKGROUND

9. AutoStore is a pioneer and leader in the field of Automated Storage and Retrieval Systems. Since its founding in the 1990s in Nedre Vats, Norway, AutoStore has pioneered the development of AS/RS solutions. AutoStore has developed, commercialized, and patented innovative AS/RS systems, including the Red Line and the Black Line systems (*see* figures below). The Red Line and the Black Line are AS/RS systems that provide unprecedented configurability and flexibility to warehouse and other facility owners and operators. Storage bins are stacked

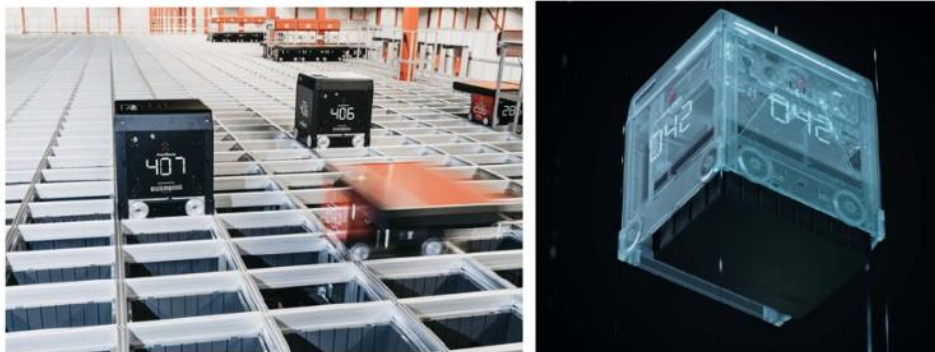
vertically in a grid and stored in a cubic structure. The bins are retrieved by robots that travel on the top of the structure. This makes it possible for the grid to be placed around columns, on mezzanines, and on multiple levels. AutoStore systems offer strategic benefits for a variety of industry segments such as e-commerce, e-grocery, omni-channel facilities, third-party logistics, and parts management.



AutoStore Black Line and Red Line robots operating on the AutoStore grid



The R5 robot used in AutoStore's Red Line system



The B1 robot used in AutoStore's Black Line system

10. Notwithstanding AutoStore's pioneering innovations, Ocado filed the present action asserting that AutoStore's Red Line and Black Line systems infringe Ocado's asserted patents.

11. AutoStore developed its pioneering technology independently, without relying on or even knowledge of Ocado's patented technology. AutoStore has not and does not infringe any of Ocado's asserted patents.

12. Ocado's asserted patents are also invalid including because they are anticipated and/or obvious over the prior art.

13. For example, under Ocado's apparent infringement theories, one or more of Ocado's asserted patents are anticipated by or obvious in view of AutoStore's own products and related product documentation, including AutoStore's Red Line system that was commercially available at least as early as 2012.

COUNT I

(Declaratory Judgment of Non-Infringement of the '080 Patent)

14. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

15. AutoStore has not directly or indirectly infringed any valid and enforceable claim of any of the '080 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271 regarding the '080 Patent.

16. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC alleging infringement by AutoStore of the '080 Patent.

17. AutoStore has been injured and damaged by Ocado filing its SAC.

18. AutoStore seeks a declaration that it has not and does not infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and enforceable claim of the '080 Patent.

COUNT II

(Declaratory Judgment of Invalidity of the '080 Patent)

19. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

20. One or more of the claims of the '080 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1 *et seq.*, including, but not limited to §§ 102, 103, and 112.

21. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC against AutoStore alleging infringement of the '080 Patent.

22. AutoStore has been injured and damaged by Ocado filing its SAC asserting the invalid '080 Patent.

COUNT III

(Declaratory Judgment of Non-Infringement of the '404 Patent)

23. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

24. AutoStore has not directly or indirectly infringed any valid and enforceable claim of any of the '404 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271 regarding the '404 Patent.

25. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC alleging infringement by AutoStore of the '404 Patent.

26. AutoStore has been injured and damaged by Ocado filing its SAC.

27. AutoStore seeks a declaration that it has not and does not infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and enforceable claim of the '404 Patent.

COUNT IV

(Declaratory Judgment of Invalidity of the '404 Patent)

28. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

29. One or more of the claims of the '404 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1 *et seq.*, including, but not limited to §§ 101, 102, 103, 112, and 115.

30. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC against AutoStore alleging infringement of the '404 Patent.

31. AutoStore has been injured and damaged by Ocado filing its SAC asserting the invalid '404 Patent.

32. AutoStore seeks a declaration that one or more of the claims of the '404 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1 *et seq.*

COUNT V

(Declaratory Judgment of Non-Infringement of the '602 Patent)

33. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

34. AutoStore has not directly or indirectly infringed any valid and enforceable claim of any of the '602 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271 regarding the '602 Patent.

35. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC alleging infringement by AutoStore of the '602 Patent.

36. AutoStore has been injured and damaged by Ocado filing its SAC.

37. AutoStore seeks a declaration that it has not and does not infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and enforceable claim of the '602 Patent.

COUNT VI

(Declaratory Judgment of Invalidity of the '602 Patent)

38. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

39. One or more of the claims of the '602 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1 *et seq.*, including, but not limited to §§ 102, 103, 112, and 115.

40. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC against AutoStore alleging infringement of the '602 Patent.

41. AutoStore has been injured and damaged by Ocado filing its SAC asserting the invalid '602 Patent.

COUNT VII

(Declaratory Judgment of Non-Infringement of the '051 Patent)

42. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

43. AutoStore has not directly or indirectly infringed any valid and enforceable claim of any of the '051 Patent and has not otherwise committed any acts in violation of 35 U.S.C. § 271 regarding the '051 Patent.

44. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC alleging infringement by AutoStore of the '051 Patent.

45. AutoStore has been injured and damaged by Ocado filing its SAC.

46. AutoStore seeks a declaration that it has not and does not infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and enforceable claim of the '051 Patent.

COUNT VIII

(Declaratory Judgment of Invalidity of the '051 Patent)

47. AutoStore repeats and re-alleges all of the preceding paragraphs as if fully set forth herein.

48. One or more of the claims of the '051 Patent are invalid for failing to meet the conditions for patentability as set forth in 35 U.S.C. § 1 *et seq.*, including, but not limited to §§ 102, 103, 112, and 115.

49. An actual controversy exists between AutoStore and Ocado based on Ocado having filed its SAC against AutoStore alleging infringement of the '051 Patent.

50. AutoStore has been injured and damaged by Ocado filing its SAC asserting the invalid '051 Patent.

JURY DEMAND

51. AutoStore requests a jury trial of all issues in this action so triable.

PRAYER FOR RELIEF

WHEREFORE, having fully answered Ocado's SAC and having asserted affirmative defenses and counterclaims, AutoStore asks this Court to enter judgment in AutoStore's favor and against Ocado as follows:

(a) Dismissing with prejudice Ocado's claims against AutoStore and ordering that Ocado take nothing from AutoStore;

(b) Finding and declaring that AutoStore does not infringe any of Ocado's Asserted Patents;

(c) Finding and declaring that Ocado's Asserted Patents are invalid and also unenforceable against AutoStore;

(d) Declaring this case exceptional under 35 U.S.C. § 285;

(e) Awarding AutoStore its attorneys' fees;

(f) Awarding AutoStore its fees, costs, and disbursements pursuant to 28 U.S.C. § 1920 and any other applicable statute or law; and

(g) Granting such other and further relief in favor of AutoStore as this Court deems just and proper.

Dated: August 27, 2021

Respectfully Submitted,

AUTOSTORE SYSTEM INC.,

By Their Attorneys,

/s/ Bryanna K. Devonshire

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